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|-------------------------------|-------------|------------------------|---------------------|------------------|
| APPLICATION NO.               | FILING DATE | FIRST NAMED INVENTOR   | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/553,158                    | 06/20/2006  | Alonso Coronado Luengo | P/4043-223          | 9071             |
| 2352                          | 7590        | 11/09/2009             | EXAMINER            |                  |
| OSTROLENK FABER GERB & SOFFEN |             |                        | HOLT, ANDRIAE M     |                  |
| 1180 AVENUE OF THE AMERICAS   |             |                        | ART UNIT            | PAPER NUMBER     |
| NEW YORK, NY 100368403        |             |                        | 1616                |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                      |
|------------------------------|--------------------------------------|--------------------------------------|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/553,158 | <b>Applicant(s)</b><br>LUENGO ET AL. |
|                              | <b>Examiner</b><br>Andriae M. Holt   | <b>Art Unit</b><br>1616              |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3**

10553158 - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

- NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 25 June 2009.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 25-27,29-35,37-43,45-51 and 53-66 is/are pending in the application.
- 4a) Of the above claim(s) 33-35,37-40,49-51 and 53-66 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 25-27,29-32,41-43 and 45-48 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \*    c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No./Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No./Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

### **DETAILED ACTION**

This Office Action is in response to Applicant's request for reconsideration filed June 25, 2009. Claims 25-27, 29-35, 37-43, 45-51, 53-66 are pending in the application. Claims 33-35, 37-40, 49-51, and 53-66 were withdrawn from further consideration in the previous Office Action as being drawn to a nonelected invention.

#### ***Election/Restrictions***

Applicant's request for reconsideration of the restriction requirement filed June 25, 2009. The traversal is on the ground(s) that the method claims from Groups I and IV relate to the same general inventive concept as Groups I and III in that all four Groups (I-IV) contain the same or a corresponding technical feature which is neither taught nor suggested in the cited prior art. The argument is found not to be persuasive for the reasons cited in the previous Office Action, which are herein reiterated. The traversal is not found to be persuasive because the special technical feature that links the groups is the (C1-C20) dialkyl ketone peroxides, and these compounds are known in the prior art as set forth in the restriction requirement dated December 31, 2008. Section 1850 [R-7] of the MPEP, Unity of Invention Before the International Searching Authority PCT Rule 13.2 (Circumstances in Which the Requirement of Unity of Invention Is to Be Considered Fulfilled), states that where a group of inventions is claimed in one and the same international application, the requirement of unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression "special technical features" shall mean those technical

features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art. In the instant application, the special technical feature, the (C1-C20) dialkyl ketone peroxides, is known in the prior art as cited in the references. Even with the claim being amended to state that the (C1-C20) dialkyl ketone peroxides is the only active component, the examples set forth in EP 0775439 use at least one dialkyl (C1-C6) ketone peroxide as the only active ingredient. The terms "at least one dialkyl (C1-C6) ketone as the only active ingredient indicates that the compositions may contain only one dialkyl (C1-C6) ketone, which means the special technical feature is known in the prior art and, thus, lacks unity of invention.

The restriction requirement of groups II and IV-XIV is still deemed proper and is therefore made FINAL.

Claims 33-35, 37-40, 49-51, and 53-66 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and election of species, there being no allowable generic or linking claim

Claims 25-27, 29-32, 41-43 and 45-48 will presently be examined to the extent they read on the elected subject matter of record.

**Status of the Claims**

Rejections not reiterated from the previous Office Action are hereby withdrawn. The following rejections are newly applied. They constitute the complete set of rejections presently being applied to the instant application.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 25-27, 29-32, 41-43 and 45-48 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Jimenez (EP 775,439) in view of Krezanoski (US 3,852,210).

***Applicant's Invention***

Applicant claims a method of sterilizing and disinfecting an object by contacting the object with a sufficient amount of a sterilizing or disinfecting agent to substantially eliminate all life forms from the object. Applicant claims the sterilizing and disinfecting agent is selected from the group consisting of (C1-C20) dialkyl ketone peroxides.

Applicant claims the (C1-C20) dialkyl ketone peroxides are the only active components.

***Determination of the scope of the content of the prior art  
(MPEP 2141.01)***

Jimenez et al. teach compositions that contain dialkyl (C1-C6) ketone peroxide preferably ethyl-methyl ketone peroxides and methyl-isobutyl ketone peroxides ((C1-C20) dialkyl ketone peroxides). Jimenez et al. teach the compositions are used for the preservation of organic tissues as well as the preservation and partial regeneration of animal or human organic tissues (col. 3, paragraph 21). Jimenez et al. teach the composition comprise a mixture (in volume %) of 12 to 70% of at least one dialkyl (C1-C6) ketone peroxide; 10 to 15% glycerol (oil); 15 to 75% of at least one alcohol (organic solvent, alcohol; and from 0 to 10% of a marker, stain and/or aromatizing agent (col. 3, paragraph 22). Jimenez et al. teach that ideal alcohols are conventional alcohols, including ethanol, absolute ethanol, and mixtures thereof (col. 5, paragraph 34).

Jimenez et al. teach in example 6, col. 7, paragraphs 46-51, that a human corpse was prepared by external washing with a conventional detergent substance, incision in the skin in the carotid and femoral regions to identify the arteries used for arterial insufflation of the preservatives. Jimenez et al. teach the composition as prepared in example 1 was injected into the corpse. Jimenez et al. teach the corpse was placed in a stainless steel tray with water. Jimenez et al. teach that after two years the corpse did not have any external signs of decay or contamination with fungi although the surrounding water, as well as, the tray was full of green, dark blue and mainly white fungi colonies. Jimenez et al. further teach in example 9 that a dog's head was kept

immersed in a composition prepared according to example 3 for 24 hours. Jimenez et al. teach that after 36 hours it was possible to observe total regeneration of the passive mobility of the jaw, tongue, and eyelids. Jimenez et al. further teach that after two years the head, exposed to room temperature, did not have any sign of loss of the cited qualities, nor any decay or microbiological or fungal contamination (col. 8, paragraphs 59-60).

***Ascertainment of the difference between the prior art and the claims  
(MPEP 2141.02)***

Jimenez et al. do not teach that the percentage by volume of the (C1-C20) dialkyl ketone peroxides is less than or equal to 5%. It is for this reason Krezanoski is added as a secondary reference.

Krezanoski teaches a stable liquid concentrate that comprises 0.1-50% of an active oxygen yielding compound, about 0.5-50% of a sulfobetaine or betaine surfactant, about 1-50% of a nonionic polyoxyethylene-polyoxypropylene block copolymer surfactant, and 10-80% water. The concentrate exhibits a loss of active oxygen of as little as 6.7% after 675 days and has utility as a bleaching and cleaning composition (Abstract). Krezanoski teaches the active oxygen yielding compounds are detergent vehicle soluble per-oxygen compounds and are used in amounts ranging from 0.1 - 50% by weight, preferably 0.5 - 10%, based on the total weight of the concentrate. The per-oxygen compounds are bleaching agents that impart a high level of cleaning and bleaching power to the compositions. The per-oxygen compounds derive their bleaching power from the release of active oxygen. Preferably the active oxygen

yielding compound is hydrogen peroxide and is used in amounts of 0.5 - 10%.

Exemplary of suitable active oxygen yielding compounds for use in this invention are di-tert-butyl peroxide and methyl ethyl ketone peroxide (col. 2, lines 16-46). Krezanoski teaches in examples I, IV, and V the use of the active oxygen yielding compound at 2 %, 5%, and 1% respectively.

***Finding of prima facie obviousness***  
***Rationale and Motivation (MPEP 2142-2143)***

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Jimenez et al. and Krezanoski and use a volume concentration of the (C1-C20) dialkyl ketone peroxides at less than or equal to 5% . One skilled in the art at the time the invention was made would have been motivated to use the (C1-C20) dialkyl ketone peroxides at less than or equal to 5% because Krezanoski teaches that the exemplary suitable active oxygen yielding compounds, including methyl ethyl ketone peroxide, are used in amounts preferably 0.5 to 10% to produce stable formulations that exhibit a loss of oxygen of as little as 6.7%. The range of the (C1-C20) dialkyl ketone peroxides of the instant application falls within the range of Krezanoski wherein formulation examples show the per-oxygen compound used at 1%, 2%, and 5%.

The skilled artisan would also be motivated to use a volume concentration of the (C1-C20) dialkyl ketone peroxides at less than or equal to 5% as a matter of routine experimentation and optimization. One skilled in the art at the time the invention was made would have been motivated to use less (C1-C20) dialkyl ketone peroxides in the

formulations because Jimenez et al. clearly teach that (C1-C6) dialkyl ketone peroxides, particularly, methyl ethyl ketone peroxide, can be used to preserve (protect from decay by fungi or microbial contaminates), essentially sterilizing and disinfecting the tissues. Thus, the skilled artisan would have been motivated to use less in the formulation with a reasonable expectation of success to optimize results using a lesser amount. Accordingly, this type of modification would have been well within the purview of the skilled artisan and no more than an effort to optimize results.

Therefore, the claimed invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made because every element of the invention has been fairly suggested by the cited reference.

Claims 25-27 and 41-43 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Brankling (WO 97/47708) in view of Krezanoski (US 3,852,210)..

#### *Applicant's Invention*

Applicant claims a method of sterilizing and disinfecting an object by contacting the object with a sufficient amount of a sterilizing or disinfecting agent to substantially eliminate all life forms from the object. Applicant claims the sterilizing and disinfecting agent is selected from the group consisting of (C1-C20) dialkyl ketone peroxides. Applicant claims the (C1-C20) dialkyl ketone peroxides are the only active components.

#### *Determination of the scope of the content of the prior art (MPEP 2141.01)*

Brankling teaches a method of reducing the souring of hydrocarbons due to bacterial production of hydrogen sulphide gas (page 1, lines 3-5). Brankling teaches the

use of peroxy compounds (which are not normally thought of as biocides) are ideally suited to the treatment of bacterially contaminated reservoirs. Brankling teaches the peroxy compounds can both destroy resident bacteria and also act to remove hydrogen sulphide already generated (page 4, lines 24-29). Brankling teaches the decomposition of the peroxy compounds leads to the generation of free radicals which are highly aggressive towards living cells. Brankling further teaches the free radicals cause damage and ultimately destroy cells such as bacteria (page 5, lines 25-29). Brankling teaches an example of suitable peroxy compounds which may be added to the reservoir flood water includes methyl ethyl ketone peroxide (C1-C20 dialkyl ketone peroxide, methyl ethyl ketone peroxide). Brankling teaches the peroxy compounds will be added to the flood water prior to injection into the reservoir. Brankling teaches in claim 1 a method of inhibiting the growth of bacteria in a hydrocarbon reservoir by introducing a peroxy compound into the reservoir (contacting object with sufficient amount of a sterilizing agent).

***Ascertainment of the difference between the prior art and the claims  
(MPEP 2141.02)***

Brankling does not teach that the percentage by volume of the (C1-C20) dialkyl ketone peroxides is less than or equal to 5%. It is for this reason Krezanoski is added as a secondary reference.

The teachings of Krezanoski with respect to the 35 U.S.C. 103(a) rejection is hereby incorporated and are therefore applied in the instant rejection as discussed above.

***Finding of prima facie obviousness  
Rationale and Motivation (MPEP 2142-2143)***

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Brankling and Krezanoski and use a volume concentration of the (C1-C20) dialkyl ketone peroxides at less than or equal to 5%. One skilled in the art at the time the invention was made would have been motivated to use the (C1-C20) dialkyl ketone peroxides at less than or equal to 5% because Krezanoski teaches that the exemplary suitable active oxygen yielding compounds, including methyl ethyl ketone peroxide, are used in amounts preferably 0.5 to 10% to produce stable formulations that exhibit a loss of oxygen of as little as 6.7%. The range of the (C1-C20) dialkyl ketone peroxides of the instant application falls within the range of Krezanoski wherein formulation examples show the per-oxygen compound used at 1%, 2%, and 5%.

In addition, the skilled artisan would have been motivated to use a volume concentration of the (C1-C20) dialkyl ketone peroxides at less than or equal to 5% as a matter of routine experimentation and optimization. One skilled in the art at the time the invention was made would have been motivated to use less (C1-C20) dialkyl ketone peroxides in the formulations because Brankling teaches that (C1-C6) dialkyl ketone peroxides, particularly, methyl ethyl ketone peroxide, can be used to destroy bacteria in oil and gas reservoirs by injecting the peroxy compound into the flood waters, essentially sterilizing and disinfecting the tissues. Thus, the skilled artisan would have been motivated to use 5% or less in the formulation with a reasonable expectation of success to optimize results using a lesser amount. Accordingly, this type of modification

would have been well within the purview of the skilled artisan and no more than an effort to optimize results.

Therefore, the claimed invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made because every element of the invention has been fairly suggested by the cited reference.

***Response to Arguments***

Applicant's arguments filed June 25, 2009 have been fully considered but they are not persuasive. Applicant argues Brankling lacks the concentration of peroxy compound, the method requires a thermal decomposition which is not part of Applicant's method, and contemplates the necessity of including an additive.

In response to Applicant's argument that Brankling lacks the concentration of the proxy compound, it would be obvious to the skilled artisan that a lack of a concentration would indicate that any concentration of the peroxy compound would provide a working formulation, 0.1% and above. As such, it would have been obvious to the skilled artisan to try various concentration ranges, including ranges of 5% or less, to optimize the results of the formulations.

In reference to the requirement of a thermal decomposition, Brinkling teaches that the compounds are characterized by a self accelerating decomposition temperature, which causes the compound to decompose at an accelerating rate yielding the free radicals necessary for biocidal activity. Brinkling teaches that exemplary compounds include methyl ethyl ketone peroxide, the C1-C20 dialky ketone peroxide used in Applicant's examples. Applicant does claim a particular temperature range in

which the compounds of the instant application can be used. As such, it would have been obvious to the skilled artisan that the temperature of the formulation could range from room temperature to any elevated temperature.

In response to the necessity of an additive, Brinkling teaches an additive may be added to the formulation. The term, may, indicates the additive is an optional ingredient. In addition, Applicant's claims use open terminology, the term "comprising". Applicant's claims are that the only active component is the (C1-C20) dialkyl ketone peroxide. It does not exclude the use of additive such as surfactants or surface treating agents that have no effect on the activity of the active component.

**Examiner's Note**

The examiner notes Applicant's data provided in the examples on pages 13-24 are not commensurate in scope with Applicant's claims. Applicant provides data for products 1 and 2 and examples 1-5. The only active component is methyl-ethyl-ketone peroxide. Applicant's claims are directed to a method of sterilizing or disinfecting an object with a sufficient amount of at least one material selected from the group consisting of (C1-C20) dialkyl ketone peroxides. Methyl-ethyl-ketone-peroxide is one species of (C1-C20) dialkyl ketone peroxides out of the myriad numbers (C1-C20) dialkyl ketone peroxides compounds, known and unknown. Therefore, the examiner cannot determine based on the data provided if the results of the use of methyl-ethyl-ketone-peroxide is reflective of all species of (C1-C20) dialkyl ketone peroxides. The examiner cannot determine if all species of (C1-C20) dialkyl ketone peroxides would provide the purported efficacy as cited in the data. Therefore, the examiner notes that

the claims are not commensurate in scope with the examples provided.

None of the claims are allowed.

### ***Conclusion***

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andriae M. Holt whose telephone number is 571-272-9328. The examiner can normally be reached on 9:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Andriae M. Holt  
Patent Examiner  
Art Unit 1616

/John Pak/  
Primary Examiner, Art Unit 1616